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Patrick Ladd

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GAZDZINSKI & ASSOCIATES
Suite 375
11440 West Bernardo Court
San Diego, CA 92127

EXAMINER

ANYA, CHARLES E

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/723,959	Applicant(s) LADD ET AL.	
	Examiner CHARLES E. ANYA	Art Unit 2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3/ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19,21-27 and 30-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19,21-27 and 30-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-19, 21-27 and 30-46 are pending in this application.

Claim Objections

2. **Claims 12 and 38-45 are objected to because of the following informalities:**

Claim 12 appear to include typographical errors. Specifically, “(” on line 4 and “and” on line 16 seem to have been use in error.

Appropriate correction is required.

Abbreviations are used in most of the independent claims, however the full meaning of the abbreviated words are not included in the claims.

For instance, the abbreviations (API, CPE, DVR and MSO) are used through out claims 38-45 without description of the full meaning of these abbreviations.

Abbreviations are allowed in claims, however it advisable to define the abbreviation before using it.

For purpose of this office action the Examiner interprets, for example, API as Application programming interface, CPE as Consumer Premise Equipment, DVR as Digital Video Recorder and MSO as Multimedia Specific Operator.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 26, 27 and 30 are rejected under 35 U.S.C. 102(e) as being unpatentable over U.S. Pat. No. 7,487,534 B1 issued to Peterka et al.

4. As to claim 26, Peterka teaches a computer-readable media for use in a cable network, said computer-readable media comprising a storage medium (“...computer readable medium...” Col. 2 Ln. 42 - 51) adapted to store a computer program (“...computer program code means...” Col. 2 Ln. 42 – 51, “...downloadable application...” Col. 6 Ln. 1 – 8) thereon, said computer program adapted to run on a client device (“...terminal...” Col. 6 Ln. 1 – 8) and to:

detect and access records (“...resources...”) within a hardware registry disposed on said client device (“...ResourceRegistry...” Col. 2 Ln. 55 – 60, Col. 3 Ln. 41 – 45, ResourceRegistry 100 Col. 4 Ln. 22 – 25, Col. 6 Ln. 1 – 8), said records providing at least information regarding:

one or parameters specific to at least one hardware feature associated with said client device (“...Public Attributes: NETWORK INTERFACE: String=”Network Interface”

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CA_MODULE: String="Conditional Access Module" MODEM: java.lang.String="MPEG Section Filter"... Col. 6 Ln. 55 – 62, "...state and status attributes of digital television (DTV) receiver resources..." Col. 7 Ln. 15 – 19); and

one or more application programming interface (API) that can be used to access and manipulate said at least one hardware feature ("...API..." Col. 2 Ln. 46 – 51, Col. 3 Ln. 41 – 46, Col. 6 Ln. 1 – 8); and

control said at least one hardware feature associated with said client device via one or more API associated with a middleware of said client device ("...management package..." Col. 2 Ln. 61 – 63, "...(ResourceTypeManager)..." Col. 3 Ln. 41 – 44, Col. 4 Ln. 60 – 67, "...ResourceTypeManager..." Col. 6 Ln. 11 – 38).

5. As to claim 27, Peterka teaches the computer-readable medium of claim 26, wherein said storage medium comprises a hard disk drive (HDD) ("...computer readable medium..." Col. 2 Ln. 42 – 51).

6. As to claim 30, Peterka teaches a method of conducting business via a cable network having a plurality of client devices ("...terminal...") operatively coupled thereto ("...network..." Col. 1 Ln. 35 – 36, "...all or selected receivers..." Col. 2 Ln. 32 – 35), said client devices each having at least one hardware registry containing data relating to a plurality of hardware features ("...ResourceRegistry..." Col. 2 Ln. 52 – 60, Col. 3 Ln. 41 – 54, Col. 4 Ln. 18 – 34, Col. 6 Ln. 1 – 8, "...Registry Package..." Col. 5 Ln. 8 – 13)

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and software interfaces using the same (“...API...” Col. 2 Ln. 46 – 51, Col. 3 Ln. 41 – 46, Col. 6 Ln. 1 – 8), the method comprising:

distributing at least one software application to said plurality of client devices (“...management applications may be downloaded...to all or selected receivers...” Col. 2 Ln. 32 – 35);

running said at least one software application on said plurality of client devices (“...perform such functions using this API...” Col. 2 Ln. 32 – 46);

discovering said at least one hardware registry and said software interface with said software application (“...an application can learn what types of resources are available...” Col. 2 Ln. 52 – 60, “...downloaded application must go to learn about existing resources...” Col. 4 Ln. 23 – 25, Col. 6 Ln. 1 – 8);

selectively accessing, via said hardware registry, individual ones of said plurality of hardware features which are standardized (“...an application can determine how many, and which, resources are available, and possibly access/use one or more of the available resources...” Col. 2 Ln. 58 – 60, Col. 3 Ln. 1 – 14, Ln. 41 – 45, Col. 6 Ln. 1 – 8); and

controlling at least one of said hardware features using said software application (“...possibly access/use one or more of the available resources...” Col. 2 Ln. 58 – 60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 8-11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pub. No. 2002/0174433 A1 to Baumgartner et al. in view of U.S. Pub. No. 2002/0038358 A1 to Sweat, III et al.

8. As to claim 1, Baumgartner teaches a method of operating client equipment (User Equipment 122) in operative communication with a content-based network (figure 1), said client equipment comprising at least at least one hardware option (“...type...” page 5 paragraphs 0065/0067, “...PVR functionality...” page 12 paragraph 0117) and at least one application running on said client equipment (“...interactive television application...” page 3 paragraph 0045, “...IPG 502...” page 8 paragraph 0081, IPG 904 page 9 paragraphs 0089/0091), the method comprising:

providing at least one Application Programming Interface (API) adapted to interface with said at least one hardware option (PVR Extensions 504/PVR APIs 506 page 4 paragraphs 0058-0060, page 5 paragraphs 0065-0067);

starting said at least one application (“...communication between IPG 502... and the PVR device...” page 8 paragraph 0081, IPG 904 page 9 paragraphs 0089/0091);
and

selectively controlling said at least one hardware option using said application via said API (Step 608 page 5 paragraphs 0067/0071).

Baumgartner is silent with reference to discovering said at least one hardware option and said at least one API using said application.

Sweat, III teaches discovering said at least one hardware option and said at least one API using said application (First Module 132 page 12 paragraphs 0131/0132/0133).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Baumgartner with the teaching of Sweat, III because the teaching of Sweat, III would improve the system of Baumgartner by providing a technique for searching/querying a data store for information/data that matches a requested information/data.

9. As to claim 8, Baumgartner teaches a method of operating Consumer Premise equipment (CPE) within a content-based network, said CPE comprising a plurality of optional hardware features (“...type (model, manufacturer, etc)...” page 5 paragraph 0065, “...PVR functionality...” page 12 paragraph 0117), middleware adapted to communicate with said hardware features via a plurality of Application Programming Interfaces (APIs) (PVR Extensions 504/PVR APIs 506 page 4 paragraphs 0058-0060, page 5 paragraphs 0065-0067), and the method comprising:

disposing an application onto said CPE (“...interactive television application...” page 3 paragraph 0045, “...IPG 502...” page 8 paragraph 0081, IPG 904 page 9 paragraphs 0089/0091); and

running said application to:

(i) discover said plurality of APIs (“...determine which of the vendor-specific APIs...” page 5 paragraph 0065);

Baumgartner is silent with reference to a hardware registry having a plurality of entries associated therewith and relating to respective ones of said hardware options and (i) discover said hardware registry, said entries and said plurality of APIs.

Sweat, III teaches a hardware registry having a plurality of entries associated therewith and relating to respective ones of said hardware options (“...BerkelyDB file...” pages 11/12 paragraphs 0131/0132) and (i) discover said hardware registry, said entries and said plurality of APIs (First Module 132 page 12 paragraphs 0131/0132/0133) and (ii) access at least one of said hardware features via at least one of said APIs (“...analyzes the BereklyDB file...to match...” page 12 paragraph 0132).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Baumgartner with the teaching of Sweat, III because the teaching of Sweat, III would improve the system of Baumgartner by providing a technique for searching/querying a data store for information/data that matches a requested information/data.

10. As to claim 9, Sweat, III teaches the method of claim 8, wherein said middleware comprises a trusted application rendered in an object-oriented language (“...user authentication...” page 16 paragraph 0169), and said at least one of said hardware features is accessed by making calls to objects of said middleware adapted to

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particularly access said hardware registry (First Module 132 page 12 paragraphs 0131/0132).

11. As to claim 10, Baumgartner teaches the method of claim 8, wherein said act of disposing comprises providing retail CPE having said application already installed thereon (“...interactive television application...” page 3 paragraph 0045, “...IPG 502...” page 8 paragraph 0081, IPG 904 page 9 paragraphs 0089/0091).

12. As to claim 11, Baumgartner teaches the method of claim 8, further comprising controlling, via said application, said at least one hardware feature (Step 608 page 5 paragraph 0067).

13. As to claim 22, Baumgartner teaches a method of operating a cable network having a plurality of client devices operatively coupled thereto (figures 1/2), the method comprising:

distributing at least one software application to each of said plurality of client devices (“...programming modules that include PVR extensions 902...downloaded...” page 9 paragraph 0086);

providing at least one software interface within each of said plurality of devices, said software interfaces being configured to interface between said at least one software application and at least one of said plurality of optional hardware (PVR

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Extensions 504/PVR APIs 506 page 4 paragraphs 0058-0060, page 5 paragraphs 0065-0067);

running said at least one software application (“...interactive television application...” page 3 paragraph 0045, “...IPG 502...” page 8 paragraph 0081, IPG 904 page 9 paragraphs 0089/0091);

discovering software interface with said software application (“...determine which of the vendor-specific APIs...” page 5 paragraph 0065).

Baumgartner is silent with reference to providing at least one hardware registry within each of said devices, said hardware registry containing data relating to a plurality of optional hardware associated with respective ones of said devices; and

discovering said at least one registry and software interface with said application, and responsive to said discovering, controlling said at least one hardware option using said application and said at least one interface.

Sweat, III teaches providing at least one hardware registry within each of said devices, said hardware registry containing data relating to a plurality of optional hardware associated with respective ones of said devices (“...BerkelyDB file...” pages 11/12 paragraphs 0131/0132); and

discovering said at least one registry and software interface with said application, and responsive to said discovering, controlling said at least one hardware option using said application (First Module 132 page 12 paragraphs 0131/0132).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Baumgartner with the teaching of Sweat, III

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because the teaching of Sweat, III would improve the system of Baumgartner by providing a technique for searching/querying a data store for information/data that matches a requested information/data.

14. Claims 2-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pub. No. 2002/0174433 A1 to Baumgartner et al. in view of U.S. Pub. No. 2002/0038358 A1 to Sweat, III et al. as applied to claim 1 above, and further in view of U.S. Pub. No. 2003/0229899 A1 to Thompson et al.

15. As to claim 2, Sweat, III teaches the method of claim 1, including a hardware registry (“...BerkelyDB file...” pages 11/12 paragraphs 0131/0132); and disposing at least one entry associated with said at least one hardware option within said hardware registry (“...registered... pages 11/12 paragraphs 0131/0132).

Sweat, III and Baumgartner are silent with reference to providing middleware having said at least one API.

Thompson teaches providing middleware having said at least one API (Middleware Software 1004 page 2 paragraph 0023).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Sweat, III and Baumgartner with the teaching of Thompson because the teaching of Thompson would improve the system of Sweat, III and Baumgartner by providing a layer of glue software that runs on top of set-

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top box operating systems to create a consistent environment to run application software over a wide variety of set top boxes.

16. As to claim 3, Sweat, III teaches the method of claim 2, wherein said act of discovering said at least one option comprises accessing said hardware registry using a software function (First Module 132 page 12 paragraphs 0131/0132).

17. As to claim 4, Baumgartner teaches the method of claim 3, wherein said content-based network comprises a multi-channel distribution network of the hybrid fiber coax (HFC) type (figures 1/2), said client equipment comprises a digital set-top box, and said act of selectively controlling said at least hardware option comprises providing Digital Video Recorder (DVR) functionality (“...type of PVR device...” page 5 paragraphs 0065/0067).

18. As to claim 5, Thompson teaches the method of claim 3, wherein said middleware is rendered in an object-oriented language (Middleware Software 1004 page 2 paragraph 0023), and **Sweat teaches** said software function comprises a hardware registry interface object (First Module 132 page 12 paragraphs 0131/0132).

19. As to claim 6, Sweat, III teaches the method of claim 3, wherein said at least one entry comprises a plurality of entries relating to respective ones of said hardware options (“...list of all users who have registered their corresponding DVR 37...” page 12

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paragraphs 0131/0132), and said act of accessing comprises iteratively searching said hardware registry to discover each of said plurality of entries (“...match the serial number...” page 12 paragraph 0132).

20. As to claim 7, Sweat teaches the method of claim 6, wherein said plurality of entries relate to different hardware options of the same general type (“...list of serial numbers for all DVRs...” page 12 paragraph 0132), and said act of iteratively searching comprises using a name convention to selectively access individual ones of said different hardware options (“...serial number...” page 12 paragraph 0132).

21. Claims 12, 41-42 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. Peterka et al. in view of U.S. Pat. No. 7,058,964 B2 issued to Khandelwal et al.

22. As to claim 12, Peterka teaches a Third party Premise equipment (CPE) adapted for use within a content-based network (“...terminal...”), said CPE comprising:

a plurality of proprietary and optional hardware features selected from the group consisting of: (i) digital video recorder (DVR) features, and digital video interface (DVI) features (“...e.g., tuner, modem...cable...network interface card...conditional access (CA) module...” Col. 2 Ln. 17 – 24, Ln. 64 – 67, Col. 6 Ln. 55 – 62);

a software application (“...downloadable applications...” Col. 3 Ln. 46 – 48, Col. 4 Ln. 23 – 25, Col. 6 Ln. 1 – 8); and

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a hardware registry having a plurality of entries associated therewith and relating to respective ones of said hardware features (“...ResourceRegistry...” Col. 2 Ln. 52 – 60, Col. 3 Ln. 41 – 54, Col. 4 Ln. 18 – 34, Col. 6 Ln. 1 – 8, “...Registry Package...” Col. 5 Ln. 8 – 13);

wherein said CPE is further adapted to:

run said software application (“...access/use one or more of the available resources...” Col. 2 Ln. 57 – 60, Col. 3 Ln. 1 – 3, Col. 6 Ln. 1 – 8);

discover said hardware registry, said plurality of entries and said plurality of APIs (“...an application can learn what types of resources are available...” Col. 2 Ln. 55 – 57, Col. 3 Ln. 23 – 25;

access at least one of said proprietary and optional hardware features via at least one of said APIs (“...access/use one or more of the available resources...” Col. 2 Ln. 57 – 60, Col. 3 Ln. 1 – 3, Col. 6 Ln. 1 – 8) and

selectively control said at least one hardware feature using said software application (“...access/use one or more of the available resources...” Col. 2 Ln. 57 – 60, Col. 3 Ln. 1 – 3, Col. 6 Ln. 1 – 8).

Peterka is silent with reference to an OpenCable (OCAP) complaint middleware adapted to communicate with said software application and said hardware features via a plurality of Application Programming Interfaces (APIs) and wherein said the CPE is configured to be utilized within a multiple systems operators (MSO) network and receive said software application via download from said network after installation of said CPE with a consumer premises.

Khandelwal teaches an OpenCable (OCAP) compliant middleware adapted to communicate with said software application and said hardware features via a plurality of Application Programming Interfaces (APIs) (“...OpenCable standards define a resource manager (RM) that manages system resources such as tuning, audio/video decodings, graphics plane and background devices...” Col. 2 Ln. 49 – 52) and wherein said the CPE is configured to be utilized within a multiple systems operators (MSO) network and receive said software application (Applications 192) via download from said network after installation of said CPE with a consumer premises (figures 3/4A (Cable Provider (MSO) 120) Col. 4 Ln. 58 – 67, Col. 5 Ln. 1 – 18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Peterka with the teaching of Khandelwal because the teaching of Khandelwal would improve the system of Peterka by providing a standard that are defined by cable operators to provide digital cable ready devices using a common or portable platform (Khandelwal Col. 1 Ln. 49 – 51).

23. As to claim 41, Peterka teaches a method of operating a consumer electronics device (“...terminal...”) having middleware (ResourceTypeManager 120) and a hard drive in data communication with said middleware (“...computer readable medium...”), comprising:

disposing a hardware registry having at least one Digital Video Recorder (DVR) functionality record disposed therein, said at least one record further identifying at least one Application Programming Interface (API) for interface with said DVR functionality

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("...ResourceRegistry..." Col. 2 Ln. 55 – 60, "...API..." Col. 3 Ln. 1 – 3, Ln. 41 – 45, ResourceRegistry 100 Col. 4 Ln. 22 – 25, Col. 6 Ln. 1 – 8); and

controlling said DVR functionality via said at least one API so as to record at least a portion of content streamed to said electronics device from an external source on said hard drive ("...possibly access/use one or more of the available resources..." Col. 2 Ln. 57 – 60: NOTE: accessing and using the functionalities of the tuner, modem, database, cable, network interface card etc. including the recording of streamed content).

Peterka is silent with reference to providing two or more applications adapted to run on said consumer electronics device and in conjunction with said middleware, receiving contending requests for accessing said registry from said two or more applications, resolving said contending requests, thereby enabling one of said two or more applications to access said registry at a time.

Khandelwal teaches providing two or more applications adapted to run on said consumer electronics device and in conjunction with said middleware "...host applications..." Col. 5 Ln. 8 – 10, Applications 192 Col. 6 Ln. 17 – 27, receiving contending requests for accessing said registry from said two or more applications ("...MSO..." Col. 5 Ln. 8 – 10, Resource Manager 180 Col. 6 Ln. 17 – 27), resolving said contending requests, thereby enabling one of said two or more applications to access said registry at a time ("...resolves the resource contention..." Col. 3 Ln. 13 – 16, "...resolve resource contention..." Col. 5 Ln. 8 – 10, Col. 6 Ln. 17 – 27, figure 7 Col. 7 Ln. 28 - 57, figure 9 Col. 8 Ln. 20 – 39).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Peterka with the teaching of Khandelwal because the teaching of Khandelwal would improve the system of Peterka by providing a technique for resolving contention for resources between applications (Khandelwal Col. 6 Ln. 17 – 27).

24. As to claim 42, Peterka teaches the method of claim 41, wherein said act of accessing said hardware registry comprises (i) discovering said hardware registry (“...an application can learn what types of resources are available...” Col. 2 Ln. 55 – 57, Col. 3 Ln. 23 – 25); (ii) accessing said hardware registry to identify said at least one DVR record (“...access/use one or more of the available resources...” Col. 2 Ln. 57 – 60, Col. 3 Ln. 1 – 3, Col. 6 Ln. 1 – 8); and (iii) accessing said at least one DVR record to identify said at least one API (Class 420/Class 430 Col. 5 Ln. 41 – 55).

25. As to claim 46, Khandelwal teaches the method of claim 41, wherein said act of resolving said contending requests comprises utilizing at least one of: a round-robin system, a priority based system, and/or a collision detection and back-off system (“...resolves the resource contention...” Col. 3 Ln. 13 – 16, “...resolve resource contention...” Col. 5 Ln. 8 – 10, Col. 6 Ln. 17 – 27, figure 7 Col. 7 Ln. 28 - 57, figure 9 Col. 8 Ln. 20 – 39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Peterka with the teaching of Khandelwal

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because the teaching of Khandelwal would improve the system of Peterka by providing a technique for resolving contention for resources between applications (Khandelwal Col. 6 Ln. 17 – 27).

26. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pub. No. 2002/0174433 A1 to Baumgartner et al. in view of U.S. Pat. No. 7,487,534 B1 issued to Peterka et al.

27. As to claim 13, Baumgartner teaches an apparatus adapted for operation within a cable network, said apparatus comprising:

a processor (figures 1/2 User Equipment 122);

a storage device operatively coupled to said processor (figure 3 Set-Top Box 302);

at least one second software application on said processor (“...interactive television application...” page 3 paragraph 0045, “...IPG 502...” page 8 paragraph 0081, IPG 904 page 9 paragraphs 0089/0091).

Baumgartner is silent with reference to first software running on said processor and adapted to control at least one function within said apparatus; and

wherein said first software is configured to:

(a) maintain a registry of hardware options within said apparatus including storing data relating to said hardware options in said storage device and (b) provide access to said hardware options to said at least one second software application via a plurality of

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software interfaces; and wherein said data relating to said hardware options comprises information regarding individual ones of said plurality of software interfaces which may be used to access individual ones of said hardware options.

Peterka teaches first software running on said processor (“...DTV receiver, set-top box...”) and adapted to control at least one function within said apparatus (“...management package...” Col. 2 Ln. 61 – 63, “...(ResourceTypeManager)...” Col. 3 Ln. 41 – 44, Col. 4 Ln. 60 – 67, “...ResourceTypeManager...” Col. 6 Ln. 11 – 38); and wherein said first software is configured to:

(a) maintain a registry of hardware options (“...resource objects...”) within said apparatus including storing data relating to said hardware options in said storage device (“...ResourceRegistry...” Col. 2 Ln. 52 – 60, Col. 3 Ln. 41 – 54, Col. 4 Ln. 18 – 34, Col. 6 Ln. 1 – 8, “...Registry Package...” Col. 5 Ln. 8 – 13) and (b) provide access to said hardware options to said at least one second software application via a plurality of software interfaces (“...API may provide a resource registry for maintaining a record of record of resource managers that process access to individual resources...” Col. 3 Ln. 1 – 3, Ln. 41 – 46, “...interface 100...then get the ResourceTypeManager to request access to a specific resource...” Col 6 Ln. 1 – 8); and wherein said data relating to said hardware options comprises information regarding individual ones of said plurality of software interfaces which may be used to access individual ones of said hardware options (“...application programming interface (API)...” Col. 41 – 46, ResourceRegistry 100 Col. 4 Ln. 19- 25).

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It would have been to one of ordinary skill in the art at the time the invention was made to modify the system of Baumgartner with the teaching of Peterka because the teaching of Peterka would improve the system of Baumgartner by providing resource registry for maintaining a record of resource managers that provide access to individual resources (Peterka Col. 3 Ln. 1 – 3).

28. As to claim 14, Baumgartner teaches the apparatus of claim 13, further comprising a network interface operatively coupled to said processor (figures 1/2); **while** Peterka teaches said first software is further adapted to communicate with an external entity via said plurality of software interface (ResourceServer Interface 410 Col. 5 Ln. 56 – 60).

29. As to claim 15, Baumgartner teaches the apparatus of claim 13, wherein said processor comprises an embedded processor, and said storage device comprises an embedded memory (User Equipment 122 page 3 paragraphs 0046/0049).

30. As to claim 16, Baumgartner teaches the apparatus of claim 13, wherein said storage device comprises a hard disk drive (HDD) (“...hard drive...” page 3 paragraph 0049).

31. As to claim 17, Baumgartner teaches the apparatus of claim 13, wherein said network comprises a multi-channel distribution network of the hybrid fiber coax (HFC)

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type (figures 1/2), and said at least one hardware option comprises Digital Video Recorder (DVR) functionality (“...type of PVR device...” page 5 paragraphs 0065/0067, “...PVR functionality...” page 12 paragraph 0117).

32. As to claim 18, Baumgartner teaches the apparatus of claim 17, wherein said DVR functionality further comprises Personal Video Recorder (PVR) functionality (“...type of PVR device...” page 5 paragraphs 0065/0067, “...PVR functionality...” page 12 paragraph 0117).

33. Claims 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pub. No. 2004/01034334 A1 to Ellis in view of U.S. Pat. No. 7,487,534 B1 issued to Peterka et al.

34. As to claim 19, Ellis teaches a fault-tolerant Consumer Premises Equipment (CPE) adapted for coupling to a cable network, said CPE having a monitor application running thereon (“...interactive television application...” page 12 paragraphs 0147-0149), said monitor application being adapted to

(i) detect at least one event relating to the operation of one or more software applications running thereon (“...conflict will arise...”, “...detects this type of conflict...” page 12 paragraphs 0147-0149);

(ii) selectively log data relating to said at least one event for subsequent use (Screen 298 page 12 paragraph 0149, Display 312 page 13 paragraphs 0160/0161);

(iii) enable at least one external network entity to control the operation of said CPE based at least in part on said at least one detected event (“...the interactive television application may provide the user with an opportunity to request that video-on-demand content be delivered from the network...” page 14 paragraphs 0179, page 13 paragraphs 0152-0156).

Ellis is silent with reference to (iv) provide a hardware registry accessible by said one or more software applications whereby said one or more software applications can selectively access and control at least one optional hardware feature of said CPE via a plurality of software interfaces.

Peterka teaches a hardware registry accessible by said one or more software applications (“...ResourceRegistry...” Col. 2 Ln. 52 – 60, Col. 3 Ln. 41 – 54, Col. 4 Ln. 18 – 34, Col. 6 Ln. 1 – 8, “...Registry Package...” Col. 5 Ln. 8 – 13) and one or more software applications that selectively access and control at least one optional hardware feature of said CPE via a plurality of software interfaces (“...application programming interface (API)...” Col. 3 Ln. 41 – 45, Col. 4 Ln. 22 – 25, Col. 6 Ln. 1 – 8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Ellis with the teaching of Peterka because the teaching of Peterka would improve the system of Ellis by providing a layer of glue software that that uniformly gain access and manage hardware resources in a registry (Peterka Col. 3 Ln. 41 – 45).

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35. As to claim 21, Ellis teaches the CPE of Claim 20, wherein said event comprises a resource depletion event (“...running time that will cause that content to overlap...” page 12 paragraph 0149), and said act of controlling the operation of said CPE comprises selectively suspending or destroying at least one of said software applications in order to mitigate said resource depletion (“...Seinfeld will be cancelled...”, “...reschedule the reminder fro Seinfeld...” page 13 paragraphs 0152-0153).

36. Claims 23-25, 31-35 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 7,487,534 B1 issued to Peterka et al. in view of U.S. Pat. No. 6,948,183 issued to Peterka et al. (hereinafter referred to Peterka’183).

37. As to claim 23, Peterka teaches an application (“...downloadable application...”) configured to:

detect and access records within a hardware registry disposed on said at least one client device and control at least one hardware feature associated with said at least one client device via one or more software interfaces (“...API...”) associated with a middleware (“...ResourceTypeManager...”) of said at least one client device (Col. 3 Ln. 41 – 49, Col. 6 Ln. 1 – 8).

Peterka is silent with reference to a head-end apparatus for use in a cable network, the head-end apparatus comprising:

at least one server having a software process running thereon, said software process being adapted to selectively download an application to at least one client device, said selective download of said application being based at least in part on information contained in a profile of said client device

Peterka'183 teaches a head-end apparatus for use in a cable network (figure 1), the head-end apparatus comprising:

at least one server having a software process running thereon, said software process being adapted to selectively download an application (“...software application code...” to at least one client device (Software Application 120 Col. 6 Ln. 66 – 67, Col. 7 Ln. 1 – 4), said selective download of said application being based at least in part on information contained in a profile of said client device (“...security policy...” Col. 9 Ln. 54 – 65).

It would have been to one of ordinary skill in the art at the time the invention was made to modify the system of Peterka with the teaching of Peterka'183 because the teaching of Peterka'183 would improve the system of Peterka by providing security policy that controls which software application to be downloaded (Peterka'183 Col. 9 Ln. 56 – 65).

38. As to claim 24, Peterka'183 teaches the apparatus of claim 23, wherein said application comprises a Digital Video Recorder (DVR)-enabled Java-based application (“...Java...” Col. 3 Ln. 40 – 41, Col. 4 Ln. 54 – 55), and **Peterka teaches** said at least one hardware feature comprises Personal Video Recorder (PVR) functionality resident

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on said at least one client device (“...accessing and managing multiple resources at the terminal...” Col. 2 Ln. 42 – 60).

It would have been to one of ordinary skill in the art at the time the invention was made to modify the system of Peterka with the teaching of Peterka’183 because the teaching of Peterka’183 would improve the system of Peterka by providing a portable computer program by allowing code to be compiled into an intermediate representation called Java bytecode, instead of directly to platform-specific machine code.

39. As to claim 25, Peterka teaches the apparatus of claim 23, wherein said control of said at least one hardware feature is initiated by the middleware of said at least one client device (“...management package...” Col. 2 Ln. 61 – 63, “...(ResourceTypeManager)...” Col. 3 Ln. 41 – 44, Col. 4 Ln. 60 – 67, “...ResourceTypeManager...” Col. 6 Ln. 11 – 38).

40. As to claim 31, Peterka teaches the method of claim 30, wherein said act of selectively distributing comprises:

distributing said software application to substantially all of said plurality of client devices of said network (“...management applications may be downloaded...to all or selected receivers...” Col. 2 Ln. 32 – 35); and

Peterka’183 teaches selectively enabling only a subset of said plurality of client devices to utilize said software application in conjunction with said at least one plurality of hardware features based on at least one of a plurality of parameters (“...”...security

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policy data allows the downloadable applications of the software application function 120 to access certain receiver functionality, resources...” Col. 5 Ln. 61 – 67, “...the purpose of a security policy for such receivers...is provide some control over applications that can be downloaded to the receiver...” Col. 9 Ln. 56 – 65).

It would have been to one of ordinary skill in the art at the time the invention was made to modify the system of Peterka with the teaching of Peterka’183 because the teaching of Peterka’183 would improve the system of Peterka by providing security policy that controls which software application to be downloaded (Peterka’183 Col. 9 Ln. 56 – 65).

41. As to claim 32, Peterka’183 teaches the method of claim 31, wherein said act of selectively enabling comprises selectively embedding information within said at least software application before distribution thereof (“...delivery of the policy to the receiver...” Col. 9 Ln. 15 – 16, Col. 11 Ln. 11 – 12, Ln. 54 – 60).

42. As to claim 33, Peterka’183 teaches the method of claim 31, wherein said act of selectively enabling comprises configuring said software application such that it:

(i) accesses information relating to the individual one(s) of said plurality of client devices on which it is running (Col. 3 Ln. 40 - 56, Block 320 Col. 11 Ln. 57 – 61); and

(ii) returns said information to a network agent, wherein said network agent accesses a database to determine if said utilizing should be enabled (Col. 3 Ln. 40 – 56, Block 320 Col. 11 Ln. 57 – 61).

It would have been to one of ordinary skill in the art at the time the invention was made to modify the system of Peterka with the teaching of Peterka'183 because the teaching of Peterka'183 would improve the system of Peterka by providing security policy that controls which software application to be downloaded (Peterka'183 Col. 9 Ln. 56 – 65).

43. As to claim 34, Peterka teaches a Digital Video Recorder (DVR)-enabled Consumer Premise equipment (CPE) (“...terminal...” Col. 2 Ln. 17 – 24), wherein said DVR functionality is provided according to the method, comprising:

providing at least one hardware registry within said CPE, said hardware registry containing data relating to DVR hardware associated therewith (“...ResourceRegistry...” Col. 2 Ln. 52 – 60, Col. 3 Ln. 41 – 54, Col. 4 Ln. 18 – 34, Col. 6 Ln. 1 – 8, “...Registry Package...” Col. 5 Ln. 8 – 13);

providing at least one software interface within said CPE, said at least one software interface being configured to interface between at least one application running on said CPE and said DVR hardware (“...application programming interface (API)...” Col. 3 Ln. 41 – 45, Col. 4 Ln. 22 – 25, Col. 6 Ln. 1 – 8);

running said at least one application (“...downloadable applications...” Col. 3 Ln. 46 – 48, Col. 4 Ln. 23 – 25, Col. 6 Ln. 1 – 8);

discovering said at least one hardware registry using said at least software application (“...and application can learn what types of resources are available...” Col. 2 Ln. 54 – 56, Col. 23 – 25, Col. 6 Ln. 1 – 8), and

responsive to said discovering, controlling said DVR hardware using said at least application and said at least one software interface (“...an application can determine how many, and which, resources are available, and possibly access/use one or more of the available resources...” Col. 2 Ln. 57 – 60);

Peterka is silent with reference to Consumer Premise equipment (CPE) for use in a content-based network, and wherein said act of controlling comprising implementing one or more user-specified rules provided to said application relating to the playback of content from said DVR hardware.

Peterka’183 teaches Consumer Premise equipment (CPE) for use in a content-based network (Cable Network 145 Col. 46 – 47), and wherein said act of controlling comprising implementing one or more user-specified rules provided to said application relating to the playback of content from said DVR hardware (“...data defining a condition of the receiver...” Col. 3 Ln. 44 – 52, “...security policy data...” Col. 5 Ln. 61 – 67, Col. 9 Ln. 56 – 65: NOTE: accessing and using the functionalities provided by a set-top box/receiver includes playback of content).

It would have been to one of ordinary skill in the art at the time the invention was made to modify the system of Peterka with the teaching of Peterka’183 because the teaching of Peterka’183 would improve the system of Peterka by providing security policy that controls which software application to be downloaded (Peterka’183 Col. 9 Ln. 56 – 65).

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44. As to claim 35, Peterka teaches the CPE of claim 34, wherein said at least one software interfaces comprise Application Programming Interfaces (APIs) (“...application programming interface (API)...” Col. 3 Ln. 41 – 45, Col. 4 Ln. 22 – 25, Col. 6 Ln. 1 – 8).

45. As to claim 43, Peterka teaches a method of operating consumer premises device (“...terminal...”) having middleware (ResourceTypeManager 120), and a hard drive in data communication with said middleware (“...computer readable medium...”), the method comprising:

providing a DVR-based application adapted to run on said device and in conjunction with said middleware (“...downloadable applications...” Col. 3 Ln. 46 – 48, Col. 4 Ln. 23 – 25, Col. 6 Ln. 1 – 8); accessing said hardware registry using said application to identify said API (“...access/use one or more of the available resources...” Col. 2 Ln. 57 – 60, Col. 3 Ln. 1 – 3, Col. 6 Ln. 1 – 8);

selectively controlling said DVR functionality via said API so as to store at least a portion of first entertainment content provided to said device on said hard drive for subsequent use by a consumer (“...possibly access/use one or more of the available resources...” Col. 2 Ln. 57 – 60: NOTE: accessing and using the functionalities of the tuner, modem, database, cable, and network interface card etc. including the recording of streamed content) and

wherein said consumer premises device comprises a device not associated with said cable network, and said act of controlling is performed substantially by said cable network-provided application (“...downloadable applications...” Col. 3 Ln. 46 – 48, Col.

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4 Ln. 23 – 25, Col. 6 Ln. 1 – 8: NOTE: the downloadable applications are downloaded over a cable network to a receiver or set-top box that is not part of cable network).

Peterka does not explicitly teach a cable network.

Peterka'183 teaches a cable network (figure 1 Cable Network 145 Col. 5 Ln. 46 – 47).

It would have been to one of ordinary skill in the art at the time the invention was made to modify the system of Peterka with the teaching of Peterka'183 because the teaching of Peterka'183 would improve the system of Peterka by providing a cable system for directly connecting and transferring data between computing devices rather than connecting the computing device via a network switch.

46. Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 7,487,534 B1 issued to Peterka et al. in view of U.S. Pat. No. 6,948,183 issued to Peterka et al. (hereinafter referred to Peterka'183) as applied to claim 34 above, and further in view of U.S. Pub. No. 2004/0003400 A1 to Carney et al.

47. As to claim 36, Peterka'183 and Peterka are silent with reference to the CPE of claim 34, wherein said at least one software interface is associated with OpenCable Application Platform (OCAP)-compliant middleware running on said CPE, and said application comprises a Java-based application adapted to make calls to objects within said middleware.

Carney teaches the CPE of claim 34, wherein said at least one software interface is associated with OpenCable Application Platform (OCAP)-compliant middleware running on said CPE (Set-Top Box Middleware 18 page 4 paragraph 0049, page 8 paragraph 0096), and said application comprises a Java-based application adapted to make calls to objects within said middleware (Application Client 14 page paragraph 0049, page 8 paragraph 0096).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Peterka'183 and Peterka with the teaching of Carney because the teaching of Carney would improve the system of Peterka'183 and Peterka by providing a layer of glue software that runs on top of set-top box operating systems to create a consistent environment to run application software over a wide variety of set top boxes (Carney page 14 paragraph 0222).

48. As to claim 37, Peterka teaches the CPE of claim 36, wherein said at least hardware registry comprises a database having records each with a plurality of fields and each relating to a specific one of a plurality of hardware options, said plurality of hardware options including said DVR hardware (“...ResourceRegistry...” Col. 2 Ln. 52 – 60, Col. 3 Ln. 41 – 54, Col. 4 Ln. 18 – 34, Col. 6 Ln. 1 – 8, “...Registry Package...” Col. 5 Ln. 8 – 13).

49. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 7,487,534 B1 issued to Peterka et al. in view of U.S. Pat. No. 6,948,183

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issued to Peterka et al. (hereinafter referred to Peterka'183) as applied to claim 43 above, and further in view U.S. Pub. No. 2004/0103434 A1 to Ellis.

50. As to claim 44, Peterka'183 and Peterka are silent with reference to the method of claim 43, wherein said method further comprises simultaneously: storing a second at least portion of second entertainment content on said hard drive; and watching, via viewing apparatus operatively connected to said consumer premises device, third entertainment content.

Ellis teaches the method of claim 43, wherein said method further comprises simultaneously: storing a second at least portion of second entertainment content on said hard drive (Option 304 page 13 paragraph 0154); and watching, via viewing apparatus operatively connected to said consumer premises device, third entertainment content (Option 304 page 13 paragraph 0154).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Peterka'183 and Peterka with the teaching of Ellis because the teaching of Ellis would improve the system of Peterka'183 and Peterka by providing collections of interacting computational processes that may be executed concurrently and allowing users to record and watch entertainment contents at the same time.

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51. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 7,068,597 B1 issued to Fijolek in view of U.S. Pub. No. 2001/0049691 A1 to Asazu.

52. As to claim 38, Fijolek teaches a Consumer Premises Equipment (CPE) for use in a content-based network (figure 5), said CPE having an application-accessible hardware registry database comprising a plurality of records each with a plurality of fields (“...first field...second field...third field...”) relating to one or more of a plurality of hardware features (“...registered CM...”) (Database 150 Col. 17 Ln. 27 – 55, Col. 23 Ln. 50 – 67, Col. 24 Ln. 1 – 31, Col. 25 Ln. 35 – 51).

Fijolek is silent with reference to registry comprising a singleton made part of middleware resident on said CPE and being installed on said CPE after installation thereof in a consumer premises.

Asazu teaches registry comprising a singleton made part of middleware resident on said CPE and being installed on said CPE after installation thereof in a consumer premises (“...middleware...” page 1 paragraphs 0016/0017, page 4 paragraphs 0056-0059).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Fijolek with the teaching of Asazu because the teaching of Asazu would improve the system of Fijolek by providing computer software that connects software components or applications and consists of a set of services that allows multiple processes running on one or more machines to interact.

53. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 7,068,597 B1 issued to Fijolek et al. in view of U.S. Pub. No. 2001/0049691 A1 to Asazu as applied to claim 38 above, and further in view of U.S. Pat. No. Peterka et al.

54. As to claim 39, Fijolek teaches the CPE of claim 38, wherein said fields comprise: (i) at least one field to identify the type or class of hardware (Table 7 “...Type...” Col. 24 Ln. 1 – 31); (ii) at least one field having parameters that are specific to the hardware (“...configuration file name...” Col. 25 Ln. 39 – 44).

Asazu and Fijolek are silent with reference to at least one field having a reference to software interface that can be used to access and manipulate the relevant one(s) of said hardware.

Peterka teaches a reference to software interface that can be used to access and manipulate the relevant one(s) of said hardware (Class 420/Class 430 Col. 5 Ln. 41 - 55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Asazu and Fijolek with the teaching of Peterka because the teaching of Peterka would improve the system of Asazu and Fijolek by providing a collection of subroutines or classes containing code and data that provide services to independent programs.

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55. As to claim 40, Fijolek teaches the CPE of claim 39, said fields further comprising at least one field to uniquely differentiate hardware of the same type (Table 7 “...Type...” Col. 24 Ln. 1 – 31).

56. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pub. No. 2004/0003400 A1 to Carney et al. in view of U.S. Pat. No. 6,968,364 B1 issued to Wong et al. and further in view of U.S. Pub. No. 2002/0174433 A1 to Baumgartner et al.

57. As to claim 45, Carney teaches a method of operating a cable network having an Multimedia specific Operator (MSO) and a plurality of Consumer Premise equipment (CPE) coupled thereto (Head End 22 page 4 paragraph 0051, page 8 paragraph 0092), the method comprising:

configuring said CPE with one or more non-standardized hardware options (Set-Top Box 16 page 4 paragraphs 0049,0051-0053);

operating an MSO application on said CPE (Application Client 14 page 4 paragraphs 0049/0052), said MSO application accessing said one or more non-standardized options via said standardized interface (Middleware 18 page 4 paragraph 0049, page 8 paragraph 0096, page 10 paragraph 0130)

Carney is silent with reference to disposing entries relating to said one or more options within a hardware registry associated with said CPE, said entries having at least one standardized interface associated therewith.

Wong teaches disposing entries relating to said one or more non-standardized hardware options within a hardware registry associated with said CPE (User Profile Database 678 Col. 40 – 57, Col. 34 Ln. 30 – 48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system Carney with the teaching of Wong because the teaching of Wong would improve the system of Carney by providing an organized and structured collection of records or data that is stored in a computer system.

Baumgartner teaches entries having at least one standardized interface associated therewith (“...library of multiple vendor-specific APIs...” page 5 paragraphs 0065/0071).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system Wong and Carney with the teaching of Baumgartner because the teaching of Baumgartner would improve the system of Wong and Carney on by providing a collection of subroutines or classes containing code and data that provide services to independent programs.

Response to Arguments

Applicant's arguments with respect to claims 12-19, 21, 23-27, 30-44 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with regards to claims 1-11, 22 and 45 have been fully considered but they are not persuasive.

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Applicant argues in substance that (1) the Examiner should clarify the last Office Action Summary regarding item 1, (2) the Sweat, III prior art does not teach discovering at least one hardware option and at least one API using an application, (3) that there is no motivation for combining the Sweat, III and Baumgartner prior arts in claim 8, (4) the Sweat, III prior art does not teach accessing a DVR function via at least one API, and (5) the Carney prior art does not teach one or more non-standardized hardware options.

The Examiner respectfully traverses Applicant's arguments:

As to point (1), the November 24, 2008 date on item 1 of Office Action Summary was a typographical error. The correction date on item 1 is November 24, 2003.

As to points (2) and (4), the Sweat, III prior art discloses among other things a database (BereklyDB file) for registering and configuring Digital Video Recorders (DVRs) (page 12 paragraph 0132). The registered DVRs are functionally equivalent to the claimed hardware options in the hardware registry and the BereklyDB file is functionally equivalent to the claimed hardware registry. To satisfy a request for registered and configured DVRs, a software application (Module 132) accesses or contacts the database to verify whether the DVR is registered and/or configured. This verification is functionally equivalent the claimed discovery of hardware options because Module 132 discovers whether a Particular DVR is registered in the database. The request (HTTP request) to the Module comes usually from client application, meaning that the discovery/verification is initiated by an application.

Contrary to Applicant's argument the Sweat, III does disclose an API for accessing the hardware option in the hardware registry because Module 132 is provided

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in the Sweat, III disclosure to access or analyze the BereklyDB file to search for registered DVRs.

As to point (3), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Sweat, III prior art provides the added benefit of a technique for searching/querying a data store for information/data that matches a requested information/data.

As to point (5), the Carney prior art discloses systems and methods that provides a common application framework that enables rapid development and deployment of iTV applications across a broad spectrum of iTV networks made up of **differing head end and/or set top box systems**, and automates the process of delivering iTV applications across such networks (page 3 paragraph 0048). The iTV applications so developed is **compatible with multiple different types of set-top boxes** (Set-Top Boxes 16), implying that the iTV applications is compatible with both standard and non-standard set-top boxes and contrary to Applicant's argument.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES E. ANYA whose telephone number is (571)272-3757. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung Sough can be reached on 571-272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hyung S. Sough/
Supervisory Patent Examiner, Art Unit 2194
11/23/09

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